

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q86052

Takashi TAKEDA, et al.

Appln. No.: 10/525,014

Group Art Unit: 1755

Confirmation No.: 5022

Examiner: Carol M. KOSLOW

Filed: February 17, 2005

For: PHOSPHOR AND VACUUM ULTRAVIOLET RADIATION EXCITED LIGHT-  
EMITTING DEVICE

**RESPONSE TO NOTICE OF NON-COMPLIANT  
APPEAL BRIEF UNDER 37 C.F.R. § 41.37**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Appellants submit herewith a Response to the Notification of Non-Compliant Appeal Brief dated March 13, 2008. A revised version of only the Summary of the Claimed Subject Matter section has been submitted, as requested under MPEP § 1205.03. The page numbers in the revised section are same as in the originally filed Appeal Brief.

Response To Notice Of Non-Compliant  
Appeal Brief Under 37 C.F.R. § 41.37  
U.S. Patent Application No.: 10/525,014

Attorney Docket No.: Q86052

No fee is believed to be necessary. However, if the USPTO disagrees, the USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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WASHINGTON OFFICE

**23373**

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Date: March 26, 2008

  
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## V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention relates to a phosphor and a vacuum ultraviolet radiation excited light-emitting device comprising the phosphor.

An object of the present invention is to provide a phosphor having high luminescence, suitable for use in a vacuum ultraviolet radiation excited light-emitting device. *See*, p. 2, lines 1-3 of the present specification.

The vacuum ultraviolet radiation excited light-emitting device comprises a phosphor, a plate and an electrode. More practically, the vacuum ultraviolet radiation excited light-emitting device comprises a rear plate, an address electrode, a barrier rib, a protective layer, a dielectric layer, a transparent electrode, a bus electrode, and a glass front plate. *See*, page 9, lines 10-17 of the present specification.

The phosphor to be used in the vacuum ultraviolet radiation excited light-emitting device of the present claim is represented by the formula  $(M^1_{1-e}Ln^2_e)_3(M^2_{1-f}Ln^1_f)_2M^3_6O_{18}$ . *See*, page 5, line 15 of the present specification.  $M^1$  is at least one metal element selected from the group consisting of Ca, Sr, and Ba,  $M^2$  is at least one metal element selected from the group consisting of Y, La, Gd, and Lu and  $M^3$  is at least one metal element selected from the group consisting of Si and Ge and oxygen. *See*, page 3, lines 8-12 of the present specification. Further,  $Ln^1$  is at least one metal element selected from the group consisting of Ce, Pr, Nd, Pm, Sm, Eu, Tb, Dy, Ho, Er, Tm, Yb, and Mn,  $Ln^2$  is at least one element selected from the group consisting of Sm, Eu, Yb, and Mn,  $e$  is from 0 to 0.5,  $f$  is from 0 to 0.5 and the sum of  $e$  and  $f$  is not less than 0. *See*, page 3, lines 13-14 and page 5, lines 17-19 of the present specification.

In addition, the phosphor is prepared by mixing it with a binder comprising a cellulose compound, a polymer such as polyvinyl alcohol, and an organic solvent to prepare a phosphor paste. The inner surface of the rear plate, provided with address electrodes formed in a stripe shape by the barrier ribs, is coated with the resulting paste by screen printing or other similar methods. This is followed by calcining at from 300°C to 600°C to form the respective phosphor layers. *See*, p. 9, line 19 to p. 10, line 6 of the present specification.

The surface glass plate, provided with a dielectric layer and a protective layer, is then superimposed on the inner surface of the rear plate so that transparent electrodes and bus electrodes are arranged in the direction perpendicular to the phosphor layers, and then bonded to the rear plate. Finally, the inside is evacuated and a rare gas of low pressure such as Xe or Ne is sealed within to create discharge spaces, and form a vacuum ultraviolet radiation excited light-emitting device. *See*, p. 10, lines 6-13 of the present specification.